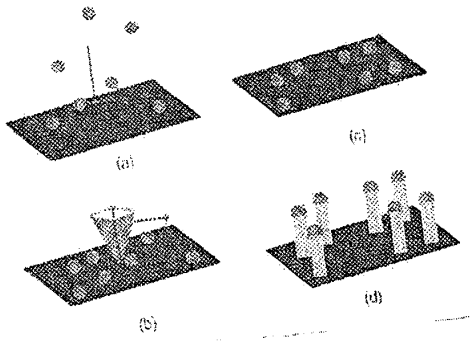


Figure 1

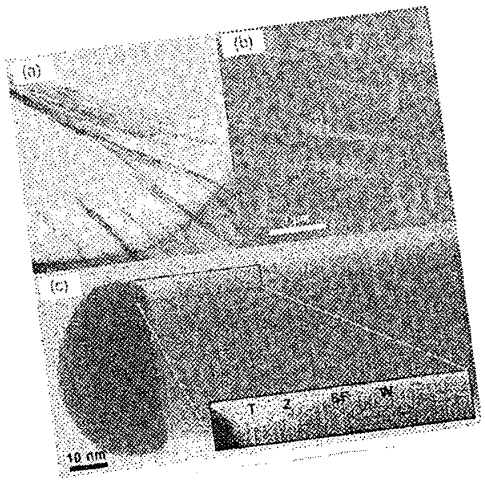
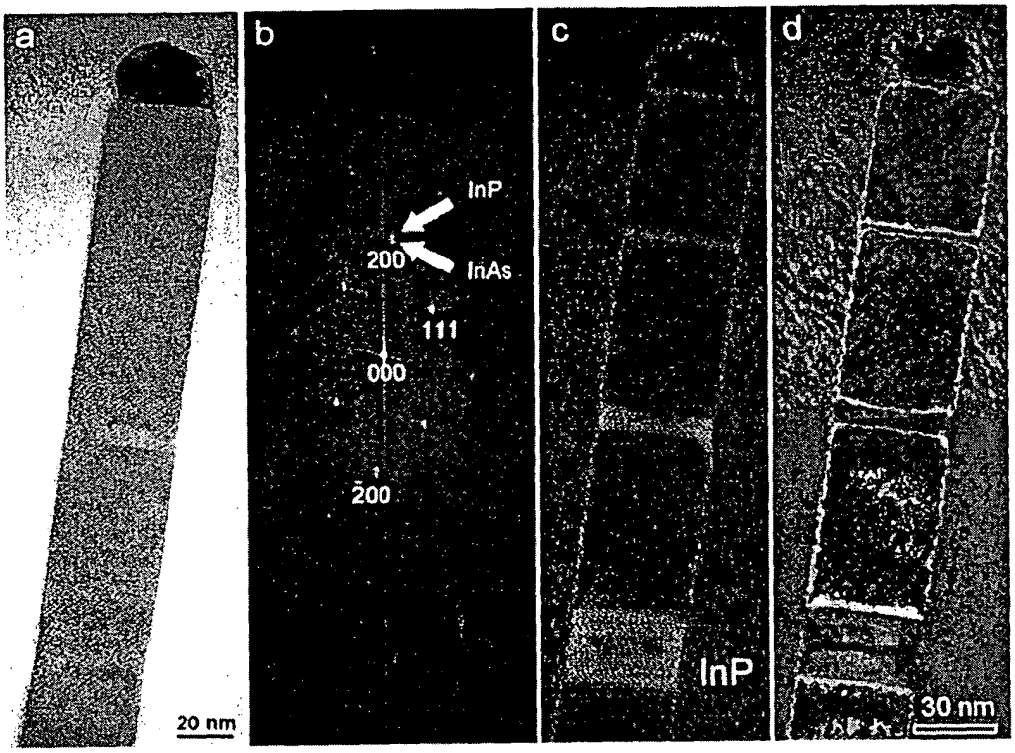


Figure 2

figure 4



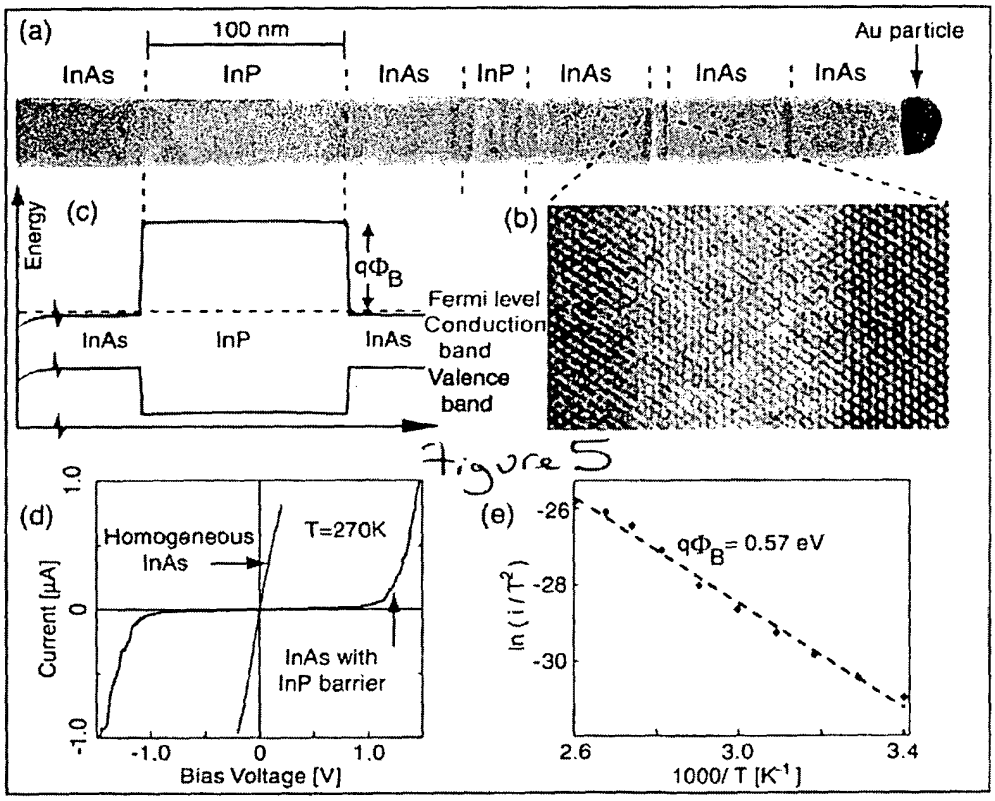


figure 5

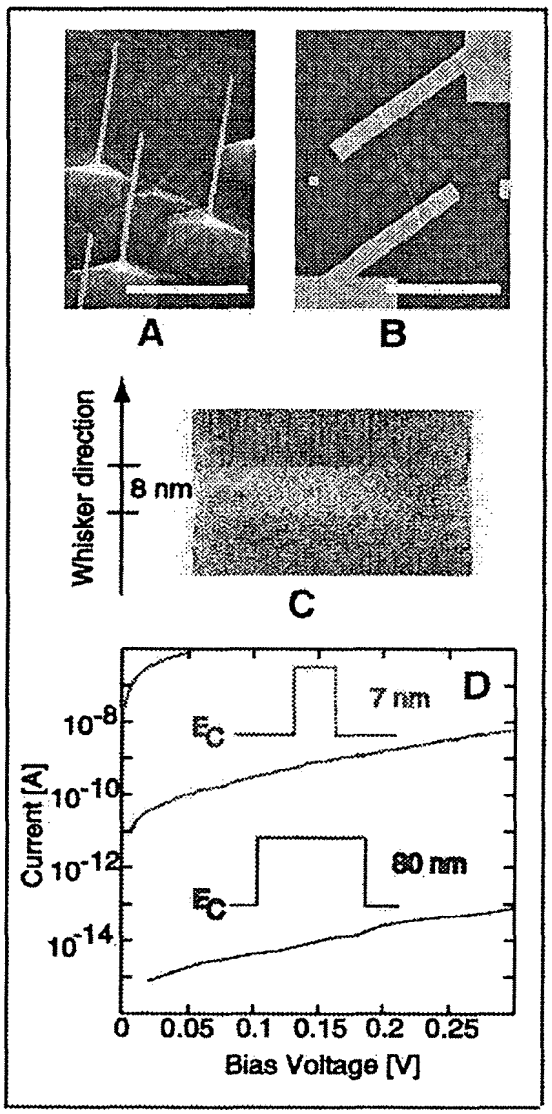

A
B
Whisker direction
8 nm
C
7 nm
D
10^{-8}
E_C
10^{-10}
Current [A]
10^{-12}
80 nm
E_C
10^{-14}
0 0.05 0.1 0.15 0.2 0.25
Bias Voltage [V]

Figura 6

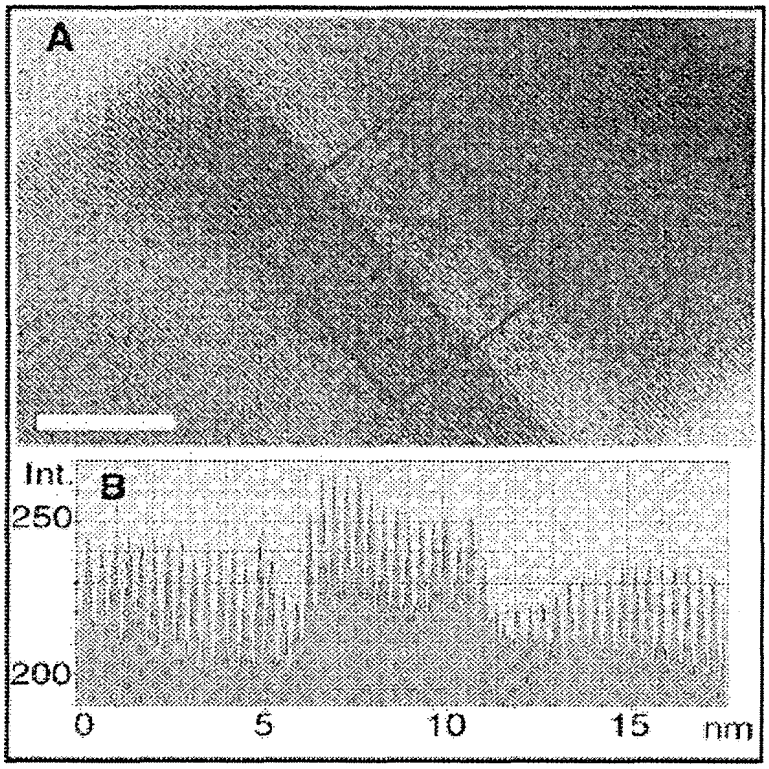


Figure 7

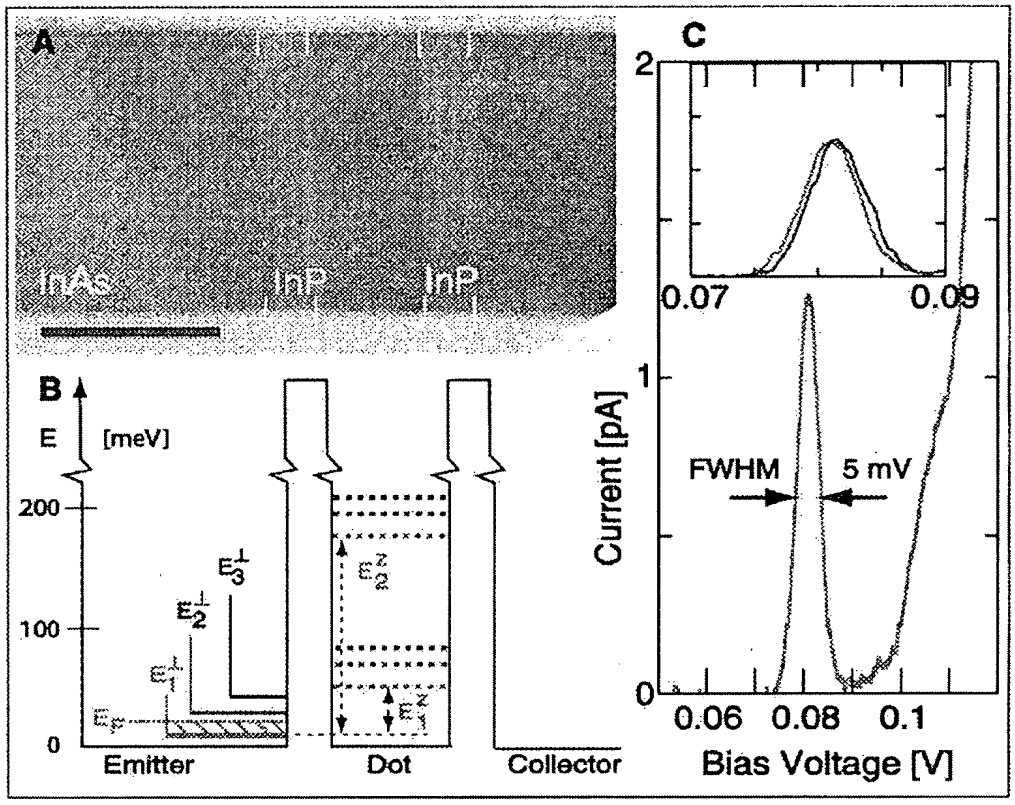

A
InAs
InP
InP
B
E [meV]
200
100
0
$E_3^\perp$
$E_2^\perp$
$E_1^\perp$
E_F
E_2^z
E_1^z
Emitter
Dot
Collector
C
2
1
0
0.07
0.09
FWHM
5 mV
Current [pA]
0.06
0.08
0.1
Bias Voltage [V]

Figure 8

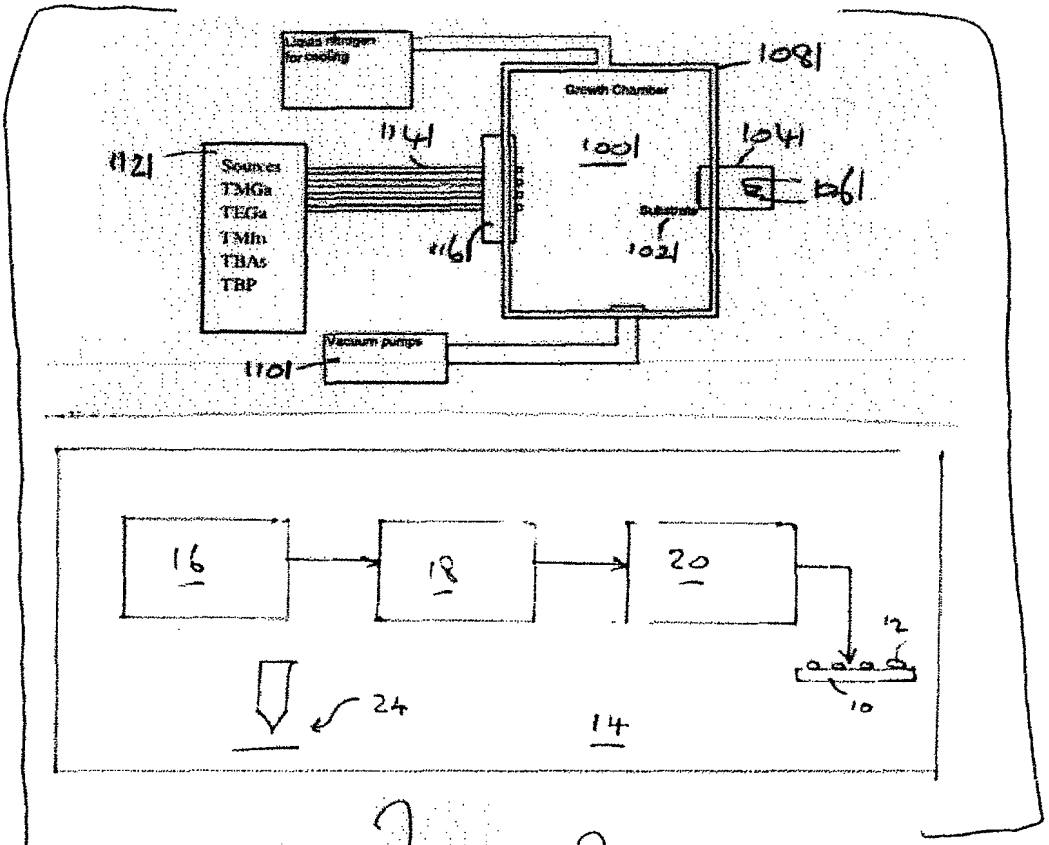
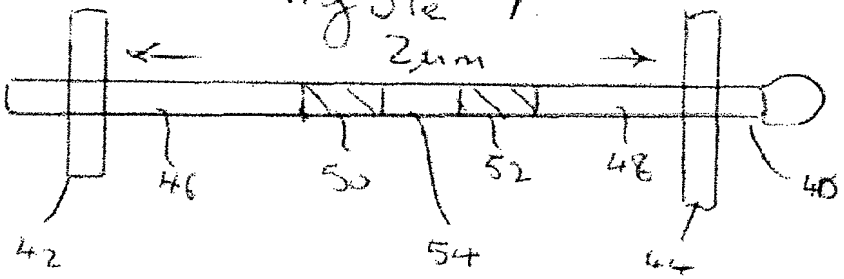


Figure 3

Figure 9



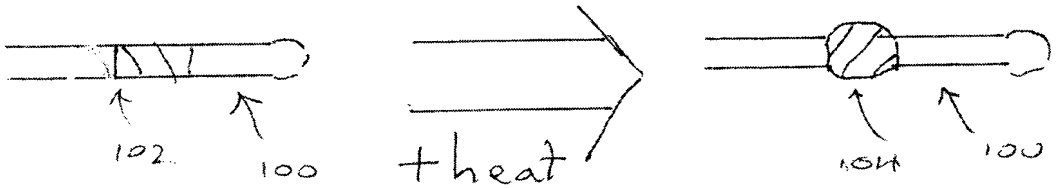
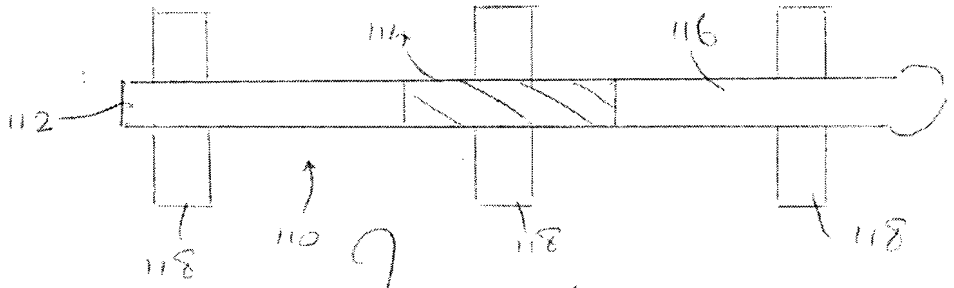


Figure 10



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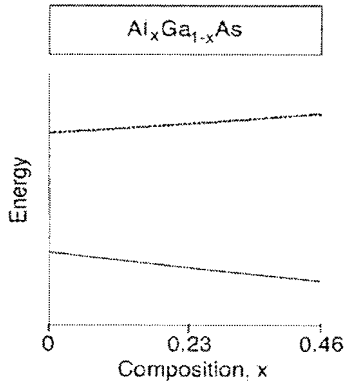


graded semiconductor

Figure 13

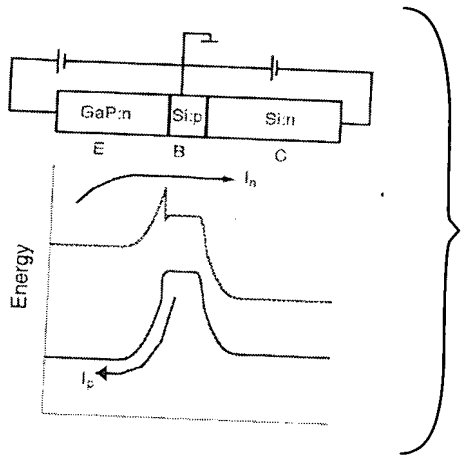


Figure 12

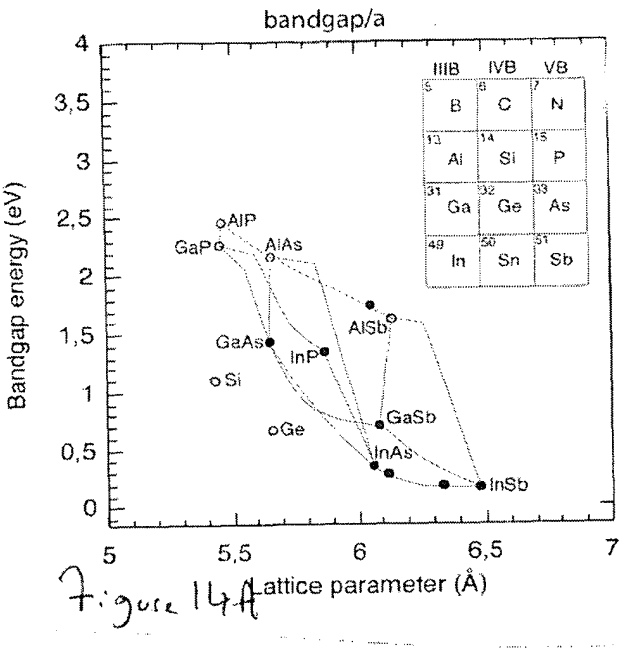


Figure 14A

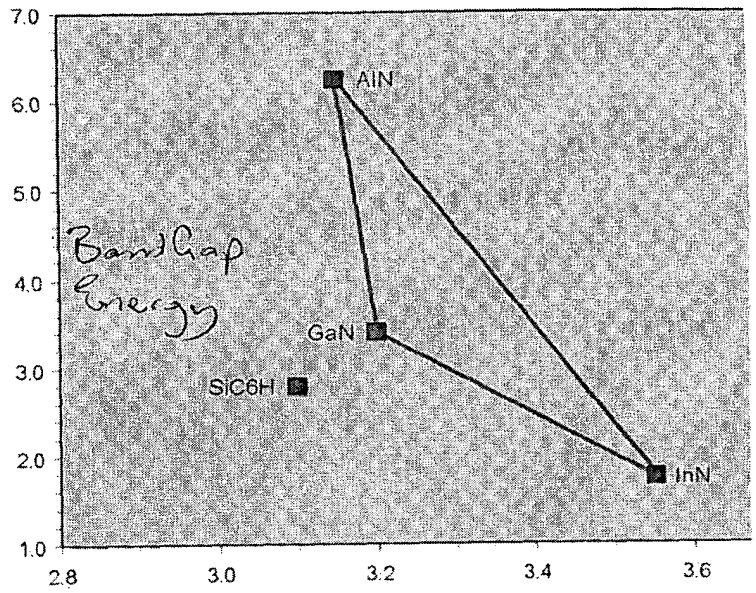


Figure 14B

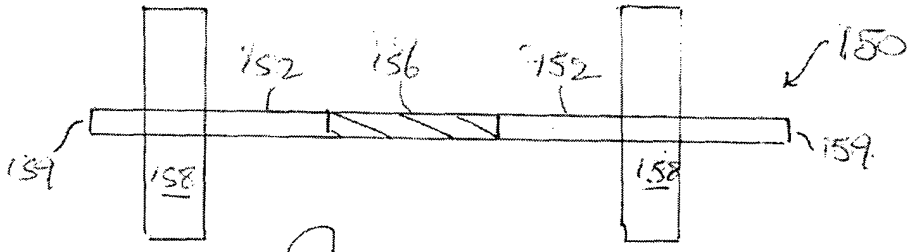


Figure 15

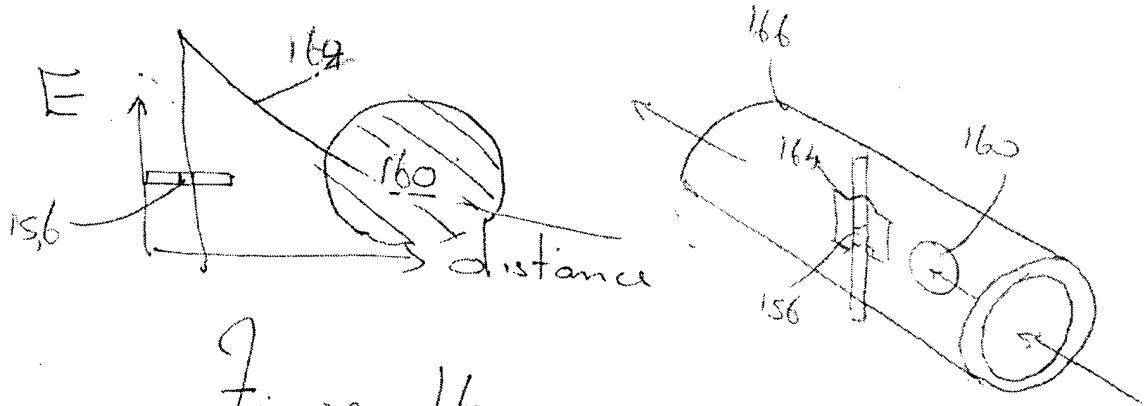


Figure 16

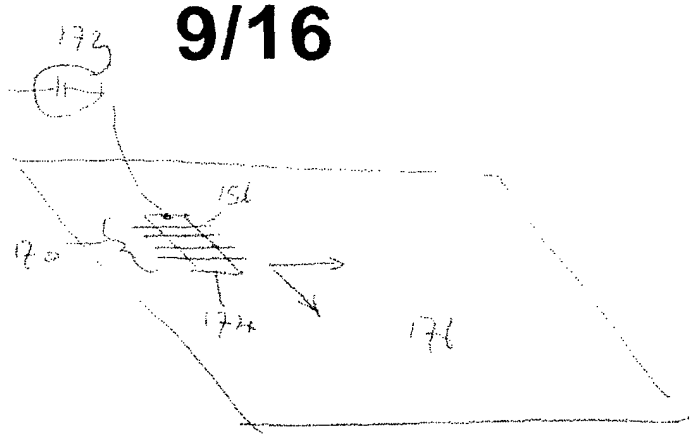


Figure 17

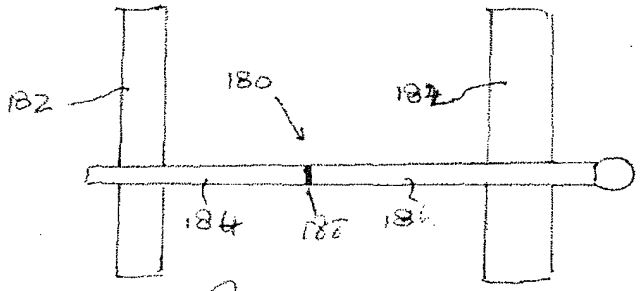


Figure 18A

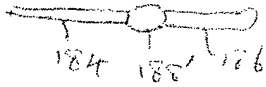


Figure 18B

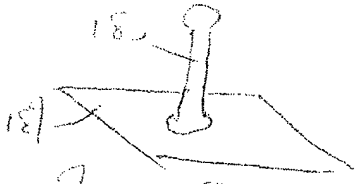


Figure 18C

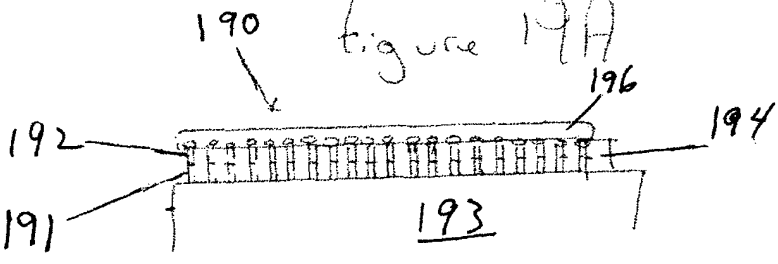


Figure 19A

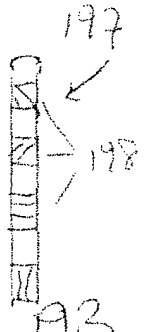


Figure 19B

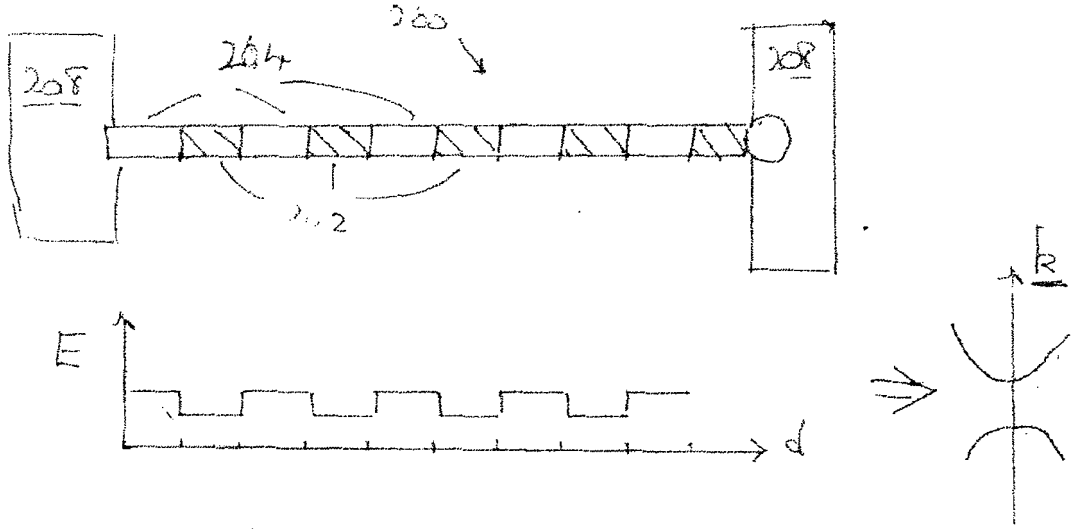


Figure 2D

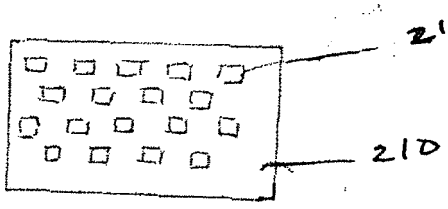


Figure 2.1A

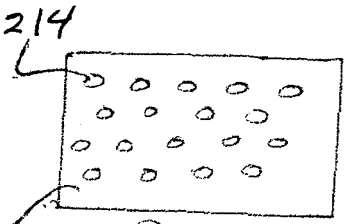


Figure 2.1B

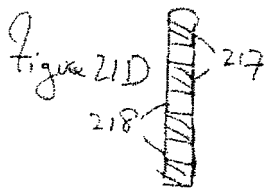


Figure 2.1D

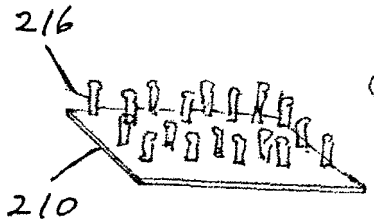


Figure 2.1C

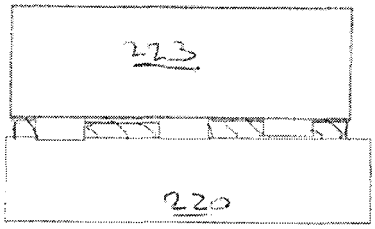
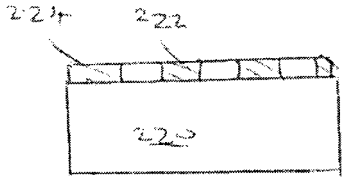


Figure 22A



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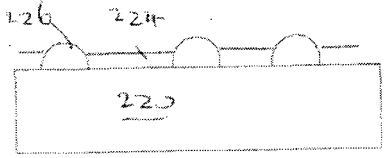
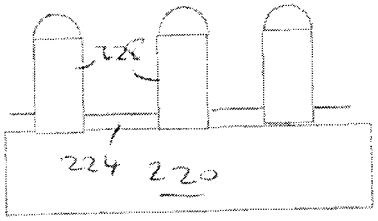


Figure 22C



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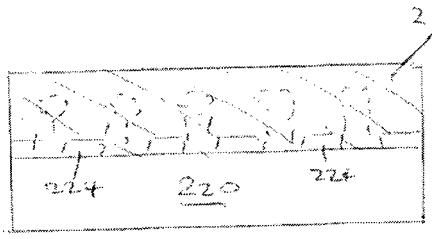


Figure 22E

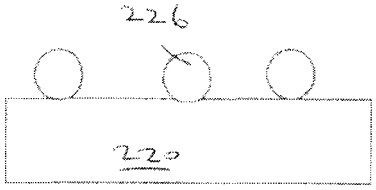


Figure 22F

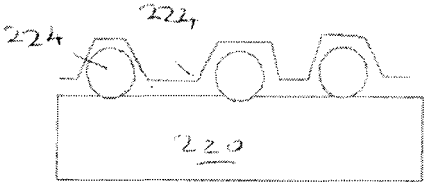


Figure 22G

12/16

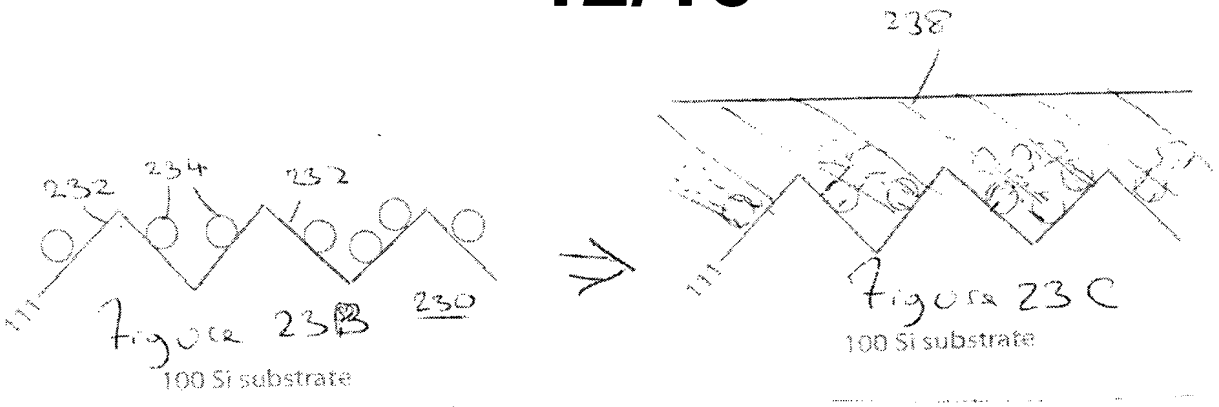


Figure 23B

Figure 23C

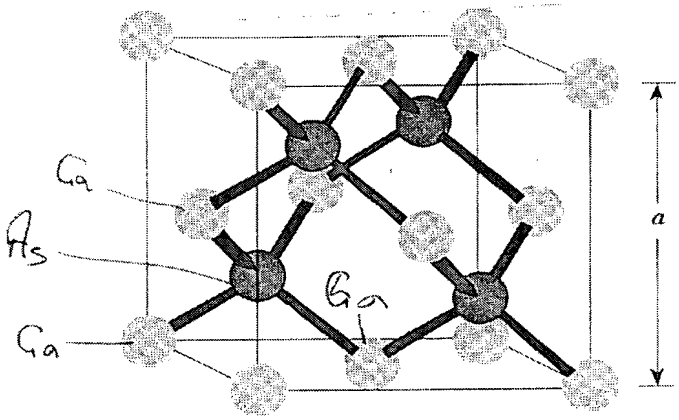
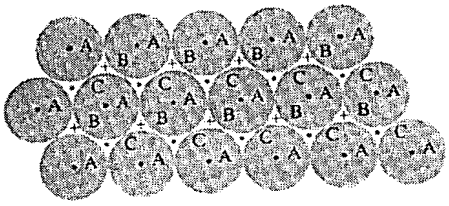
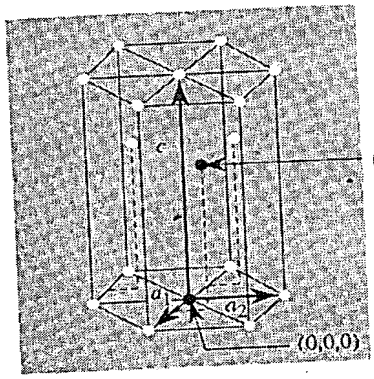


Figure 23A The zinc blende crystal structure. The structure consists of the interpene fcc lattices, one displaced from the other by a distance $(\frac{a}{4}\frac{a}{4}\frac{a}{4})$ along the body diagon underlying Bravais lattice is fcc with a two atom basis. The positions of the two atoms i and $(\frac{a}{4}\frac{a}{4}\frac{a}{4})$.





$|c| = |a_3| = 1.633\,|a_1|$
Two atoms per basis

$(2/3a_1 + 1/3a_2 + 1/2a_3)$

Figure 24A

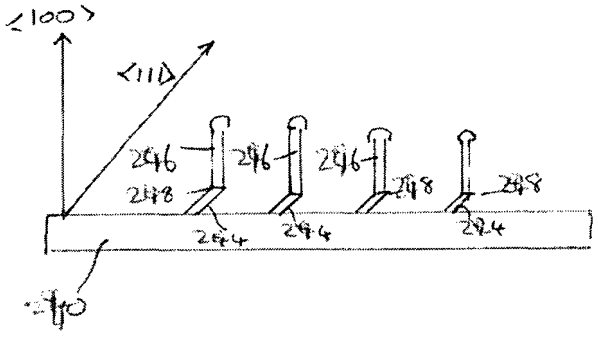


Figure 24B

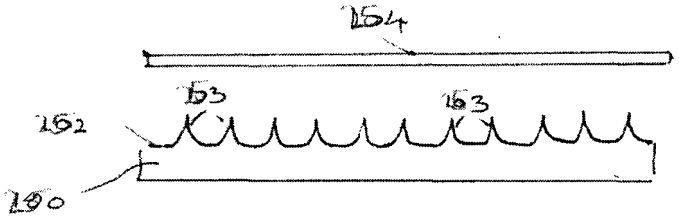


Figure 25A

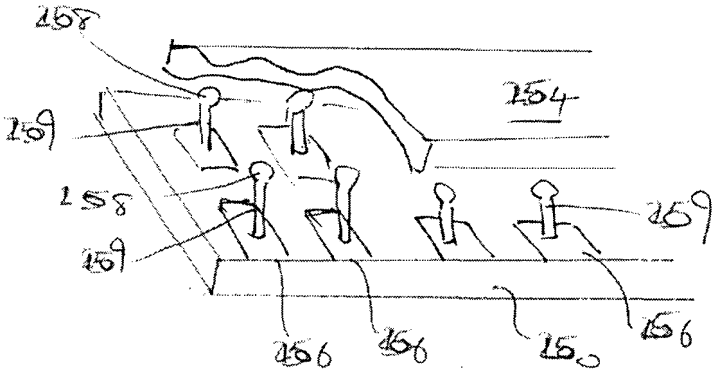


Figure 25B

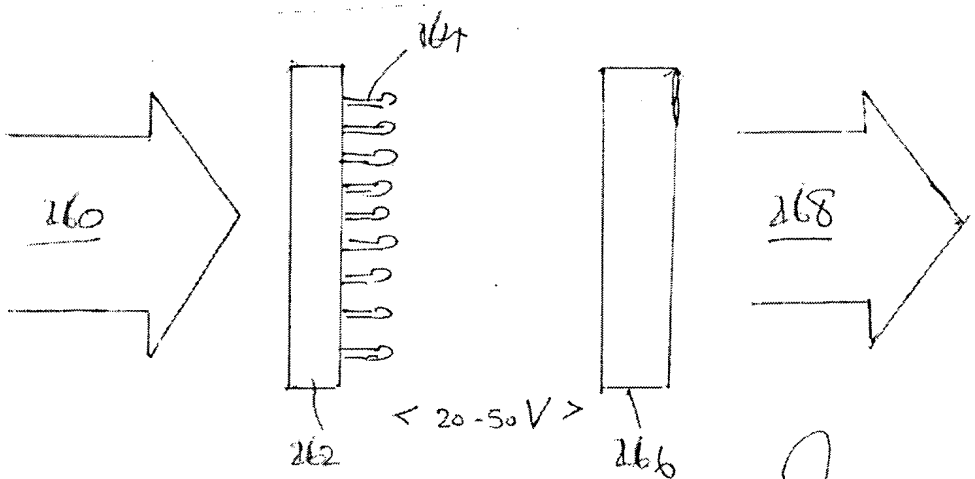


Figure 26

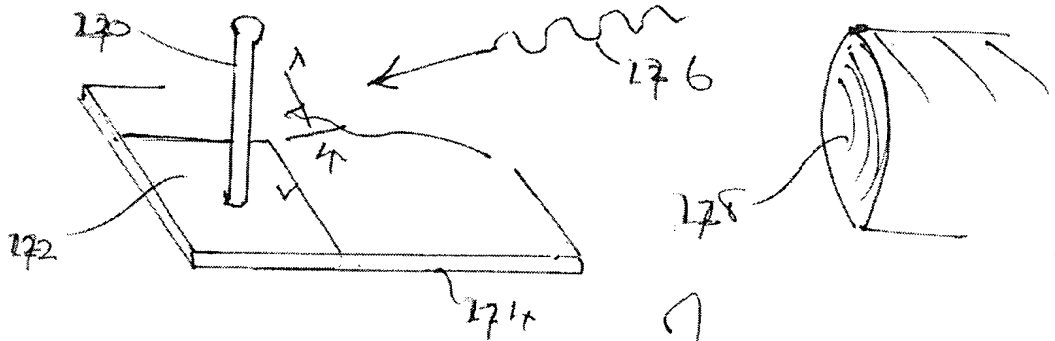


Figure 27

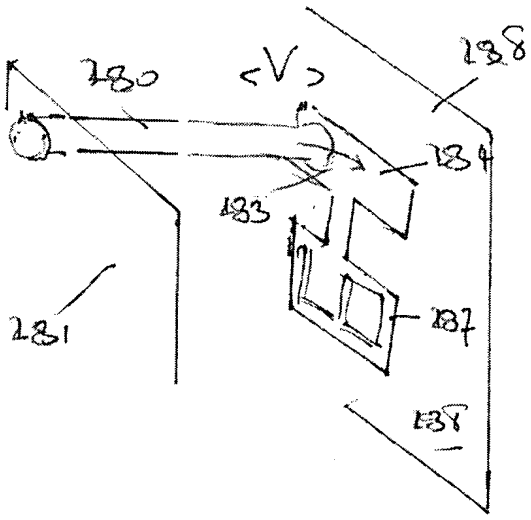
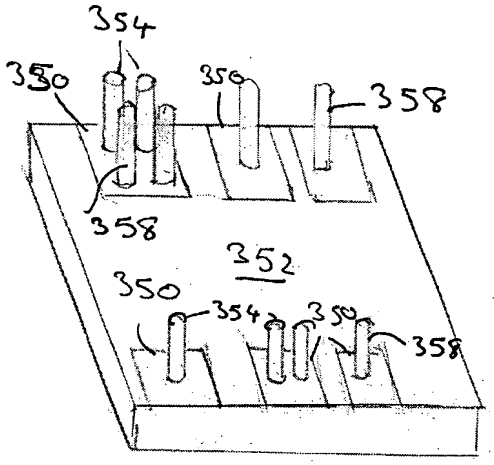


Figure 28



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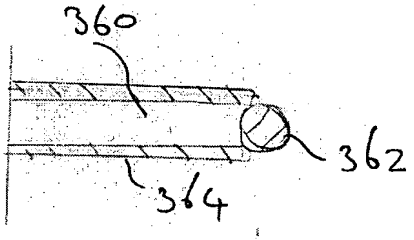

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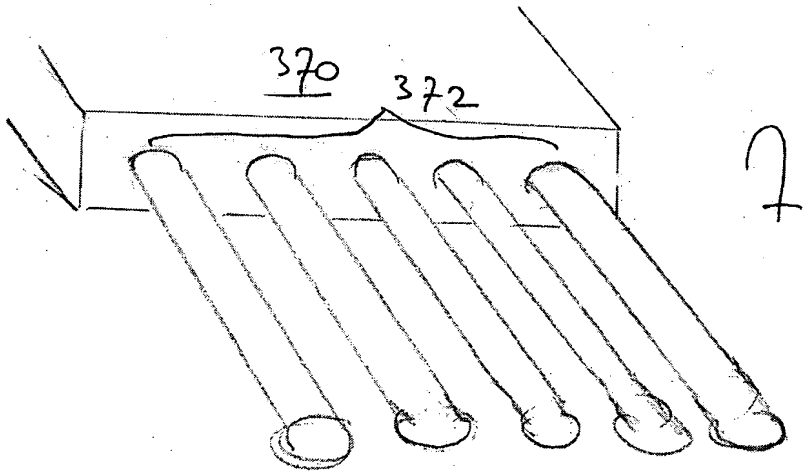

Figure 31

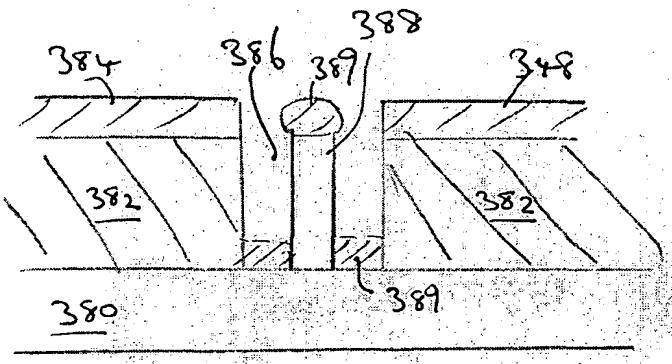

Figure 32

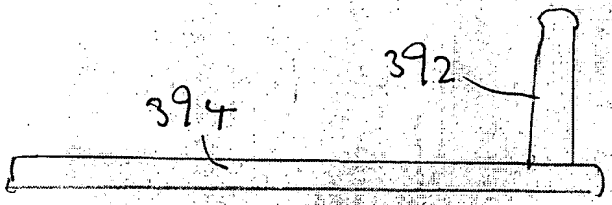

Figure 33